

Re: question about axiomatic set theory

Source: <http://sci.tech-archive.net/Archive/sci.math/2005-08/msg03829.html>

- *From:* quasi <quasi@xxxxxxxx>
 - *Date:* Sat, 20 Aug 2005 21:07:24 -0700
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On 20 Aug 2005 17:46:13 -0700, "Dani" <tictactictac@xxxxxxxx> wrote:

>I already know the axiomatic development of set theory. So my question
>might seem absurd – I don't see how that development is possible. My
>question – how IS it possible?
>
>Where this absurdity comes from: when I try to re-gain my
>understanding, logic and set-theoretic approaches tangle together, and
>trying to put one in front of the other just makes the problem worse. I
>don't see how set theory can be axiomatically developed, if structures
>are sets, and so are formal systems. As though it were not enough that
>my thinking tangles set and logic, I began recently to read Nonstandard
>Analysis by Abraham Robinson. Here, constructions like enlargements and
>ultraproducts just invite the problem to get worse.
>
>I hope somebody might have some idea about this. But it seems to me
>that maybe mathematics is just ambiguous to some extent – which can
>mean that not everything in it can be stated on paper, but it open to
>individual interpretation. But that would seem to be a contradiction,
>given how universally accepted the mathematical theories are, despite
>their complexity.

You make a good point — it's a chicken and egg phenomenon.

One possible resolution is to axiomatize logic and set theory together, simultaneously declaring the primitive undefined terms of both. The axioms can then cross back and forth between logic and set theory without a border check.

quasi
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- *References:*
 - ◆ [question about axiomatic set theory](#)
◇ *From:* Dani
- Prev by Date: [Re: Easy question in algebra](#)

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